

Although figure 3 provides a useful summary of the current status of vaccine development and immunization in the United States, it also masks the substantial research efforts that are under way to improve on or combine vaccines already licensed. These efforts target measles vaccines for use under 9 months of age; pneumococcal vaccines for use under 12 months of age; new cholera and typhoid vaccines; heat-stable poliomyelitis vaccines; timed-release "micro-encapsulated" tetanus toxoid vaccines; and improved meningococcal and pertussis vaccines. In addition, various combination vaccines currently are undergoing testing. Many of the improvements likely to result from these efforts not only will improve the level of public health in the United States but also will be of particular importance for disease control in less developed countries. Some of these improvements, and the new vaccines, will be possible only with the better understanding that derives from basic research. Accordingly, in accelerating the development of new or improved vaccines, the earlier that resources can be provided, the sooner the public health benefits from immunization will begin to accrue.